it in the power of every individual possessed of standard weights to verify his measures of capacity with the utmost facility.

Description of an improved Hygrometer. *By Mr.* Thomas Jones. *Communicated by Captain* Henry Kater, *F.R.S.* Read June 16, 1825. [*Phil. Trans.* 1826, Part II. *p.* 53.]

The principle of Mr. Jones's Hygrometer is essentially the same with that of Mr. Daniell's, or rather with that employed by Mr. Dalton to determine the quantity of aqueous vapour present in the air, viz. to ascertain the temperature at which dew is deposited from the atmosphere. It differs from Mr. Daniell's, however, in the frigorific action being applied *immediately* to the bulb of the thermometer employed to measure the temperature.

This bulb is of a considerable size, and of a cylindrical form, slightly flattened, and extended at the end. The stem of the thermometer being twice bent at right angles, this end of the bulb turns upwards. It is made of black glass and is exposed, but the rest of the bulb is covered with muslin. This being moistened with ether, the mercury is cooled, and dew at length settles on the exposed part, at which moment it is read off.

Mr. Jones, after describing this instrument, obviates an objection to its use, drawn from the application of the frigorific process to the *lower* part of the bulb, while the dew is deposited at the upper. This objection, if valid, might be obviated, by inclining the bulb so as to have its axis horizontal. But repeated trials have satisfied him of there being no occasion for this precaution.

Mr. Jones finally alludes to the use of a similar construction in Vienna.

Observations on the Changes which have taken place in some ancient Alloys of Copper. *By* John Davy, *M.D. F.R.S.* *In a Letter to Sir* Humphry Davy, *Bart. P.R.S.* Read November 17, 1825. [*Phil. Trans.* 1826, Part II. *p.* 55.]

Dr. Davy first describes the nature of an incrustation upon an ancient helmet found in a shallow part of the sea, between the citadel of Corfu and the village of Castrades. The surface was of a variegated colour, mottled with spots of green, dirty white, and red. The red and green patches exhibited minute crystals of red oxide of copper, and metallic copper; and were further composed of its green submuriate and carbonate. The dirty white parts consisted chiefly of oxide of tin. These new combinations are only superficially produced; the metal was found bright beneath, and consisted of copper alloyed with 18·5 parts of tin.

An ancient nail from a tomb in Ithaca, and a mirror from a tomb at Samos, in Cephalonia, afforded nearly similar but less distinctly crystalline results. The copper in the mirror was alloyed with 6 per cent. of tin, and a minute portion of arsenic.